



**BRIEFING: JUNE 3, 2010 BOARD MEETING AGENDA ITEM #7**

**TO:** Chairman Pringle and Authority Board Members

**FROM:** Dan Leavitt, Deputy Director

**DATE:** 5/25/10

**RE:** San Jose to Merced Preliminary Alternatives Analysis

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**San Jose to Merced Preliminary Alternatives Analysis**

This agenda item is intended to serve as the release of the Preliminary Alternatives Analysis (AA) Report for the San Jose to Merced Section and provide the public and the Board an opportunity to be briefed on the current state of analyzing the alignment and station alternatives in the section. The full San Jose to Merced Preliminary Alternatives Analysis will be posted on the CHSRA website on June 3, 2010.

Subject to United States Environmental Protection Agency and U.S. Army Corps of Engineer concurrence as part of the Clean Water Act § 404 (b)(1)/National Environmental Protection Act NEPA integration process, and considering the technical data and the extensive community, stakeholder, and agency input received, Authority staff recommends the alignment and station alternatives identified in the attached Executive Summary of the Preliminary AA be carried forward for detailed study in the San Jose to Merced Section HST Project EIR/EIS.

**Staff Recommendation**

Staff requests approval of the Preliminary AA.

**Attachments:**

- ✓ Preliminary AA Executive Summary

## ES.0 EXECUTIVE SUMMARY

### ES.1 Results from the Preliminary Alternatives Analysis

The *Preliminary Alternatives Analysis Report San Jose to Merced Section* (AA) May 2010 incorporates conceptual engineering information and identifies feasible and practicable alternatives to carry forward for environmental review and evaluation in the draft environmental impact report/environmental impact statement (EIR/EIS) under the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA).

To facilitate the analysis of potential alignment alternatives, station location and design options across the 125-mile San Jose to Merced high-speed train (HST) Section, the overall section was divided into six subsections:

- 1) **San Jose Station Approach:** San Jose HST Station to Tamien Caltrain Station–West Alma Avenue (San Jose)
- 2) **Monterey Highway:** Tamien Caltrain Station–West Alma Avenue (San Jose) to Coyote–South of Bernal Road (San Jose)
- 3) **Morgan Hill–Gilroy:** Coyote–South of Bernal Road (San Jose) to Casa de Fruta (West end of Pacheco Creek Valley)
- 4) **Pacheco Pass:** Casa de Fruta (West end of Pacheco Creek Valley) to Interstate 5 (Santa Nella Village)
- 5) **San Joaquin Valley Crossing:** Interstate 5 (Santa Nella Village) to Merced/Fresno Wye (Merced or Madera County)
- 6) **Wye to Merced/Fresno Section–Merced:** Merced/Fresno Wye (Merced or Madera County) to Merced Station

Figure ES-1 shows those alignment alternatives recommended to be carried forward for evaluation in the San Jose to Merced Section draft EIR/EIS. Table ES-1 at the end of this section summarizes by alignment alternative within each subsection the proposed decisions regarding the withdrawal or carrying forward of the alignment into the draft EIS/EIR. Alignments recommended for continued study are:

- San Jose Station Approach: SR 87/I-280
- Monterey Highway: Refined Program Alignment
- Morgan Hill-Gilroy: East of UPRR to Downtown Gilroy (Program Alignment); US 101 to Downtown Gilroy; US 101 to East of Gilroy; East of UPRR to East Gilroy; Downtown Gilroy: HST Trench Design Option
- Pacheco Pass: Close Proximity to SR 152; Refined Program Alignment
- San Joaquin Valley Crossing: Henry Miller Road to Avenue 24 (Refined Program); Henry Miller Road to Avenue 21
- Wye to Merced/Fresno Section—Merced: A-1 BNSF and A-2 UPRR

The HST stations recommended for continued study are:

- San Jose Station: Over Diridon Platforms
- Morgan Hill-Gilroy Station: Downtown Gilroy (Four-Track) (Aerial and Trench); East Gilroy (Four-Track)
- Merced Station: *See Merced to Fresno Preliminary Alternatives Analysis Report* (see <http://www.cahighspeedrail.ca.gov/library.asp?p=8732>)

The Authority and the FRA, in addition to performing engineering and environmental analysis, have engaged the agencies, public and the communities throughout the corridor and continue to incorporate their input. The observations below outline some of the highlights from the work and input received to-date:

- Local agencies, community groups and the public all proposed underground options for the San Jose Diridon Station and Approach, and it is the preference of the City of San Jose to continue investigation of the most viable tunnel concept. After considerable study of both deep mined stations and shallower cut-and-cover options, it is concluded that all underground options are not practicable due to unsafe mining conditions (poor soils combined with high groundwater), construction schedule, potential for settlement, extensive surface disruption and very high construction cost and should be eliminated from further evaluation. In the case of the shallow tunnel option, the proposed BART station and extensions north to Santa Clara and east to downtown San Jose would also have to be redesigned and placed much lower in the existing poor ground conditions. Locating the HST Station above the existing Diridon Station platforms would maximize connectivity and development potential in the station area. The report also recommends eliminating from further consideration the program alignment through the Greater Gardener community because of potential impacts to the neighborhoods including community cohesion, noise/vibration, visual, impacts on Fuller Park and displacement of a nonprofit (house of worship). The recommended alternative (SR-87/I-280) would minimize impacts by utilizing the existing freeway corridors for much of the approach to the station and would move the alignment away from the Greater Gardiner neighborhood.
- Many options have been evaluated between Morgan Hill and Gilroy and the recommendation is to continue the study of both the Monterey Hwy/UPRR corridor and US-101 corridor, with a station either in downtown Gilroy or an area to the east of Gilroy. The Monterey Hwy/UPRR corridor alternative would be adjacent to and avoid UPRR operating right-of-way. The recommendation is to continue to investigate both the trench and aerial structure options through downtown Gilroy and for a downtown Gilroy Station.
- A state-of-the-art optimization tool was used to refine the program alignment through the Pacheco Pass. This tool was used to identify the feasible/practicable alternatives and then minimize impacts by bringing the alignment closer to SR-152. More detailed design will further refine the precise location and profile of the two design options at the eastern end of the pass to the north of the San Luis Reservoir.
- As agreed in the Program EIR/S, alternatives north and south of the Grassland Ecological Area (GEA) target boundary were evaluated in addition to the Henry Miller Road alignment. The alternative to the north of the GEA would be incompatible with Proposition 1A by increasing travel time between San Francisco and Los Angeles by over four minutes and would have a high level of impact to residential properties, parklands, and agricultural lands. The alternative to the south of the GEA would add fourteen minutes to the travel time between San Jose and Merced and have much higher environmental impacts due to the twenty addition miles of HST alignment. Two options are recommended for continued investigation for the connection between Henry Miller Road and the Merced-Fresno HST section: Ave 24 (program alternative) and Ave 21. These two east-west alignments would connect to either the A1-BNSF alignment or the A2-UPRR Alignment between Merced and Fresno. The location of the wye connections between these east-west and north-south alignments will be important in minimizing local impacts.

## ES.2 Alternative Analysis Evaluation Measures

The alignment alternatives, station location and design options carried forward into the detailed alternatives analysis were assessed for each of the project objectives and evaluation measures. This information was then used to determine which alternatives are feasible and practicable and should be carried forward into preliminary engineering design and environmental review as part of the EIR/EIS. The primary evaluation measures are listed below.

- ♦ Design objectives (including measures such as travel time and cost)
- ♦ Land use (including measures such as consistency with land use and general plans)
- ♦ Constructability (including measures such as track type construction and access to the corridor)
- ♦ Community impacts (including measures such as amount of land acquisition)
- ♦ Natural resources (including measures such as impacts to wetlands, potential threatened and endangered species habitat, and important farmlands)
- ♦ Environmental quality (including measures such as number of sensitive noise receptors)

Additional considerations (including measures such as ability to meet project purpose and support by public and agencies)

## ES.3 San Jose to Merced Section HST Project Background

The route development for the San Jose to Merced Section is built on the set of HST network alternatives and HST alignment alternatives that were analyzed in the *2005 Final Program EIR/EIS for the Proposed California High-Speed Train System* and the *2008 Bay Area to Central Valley HST Final Program EIR/EIS*. The program Statewide and Bay Area to Central Valley documents resulted in the identification of a preferred corridor for the Bay Area to Central Valley section of the HST system.

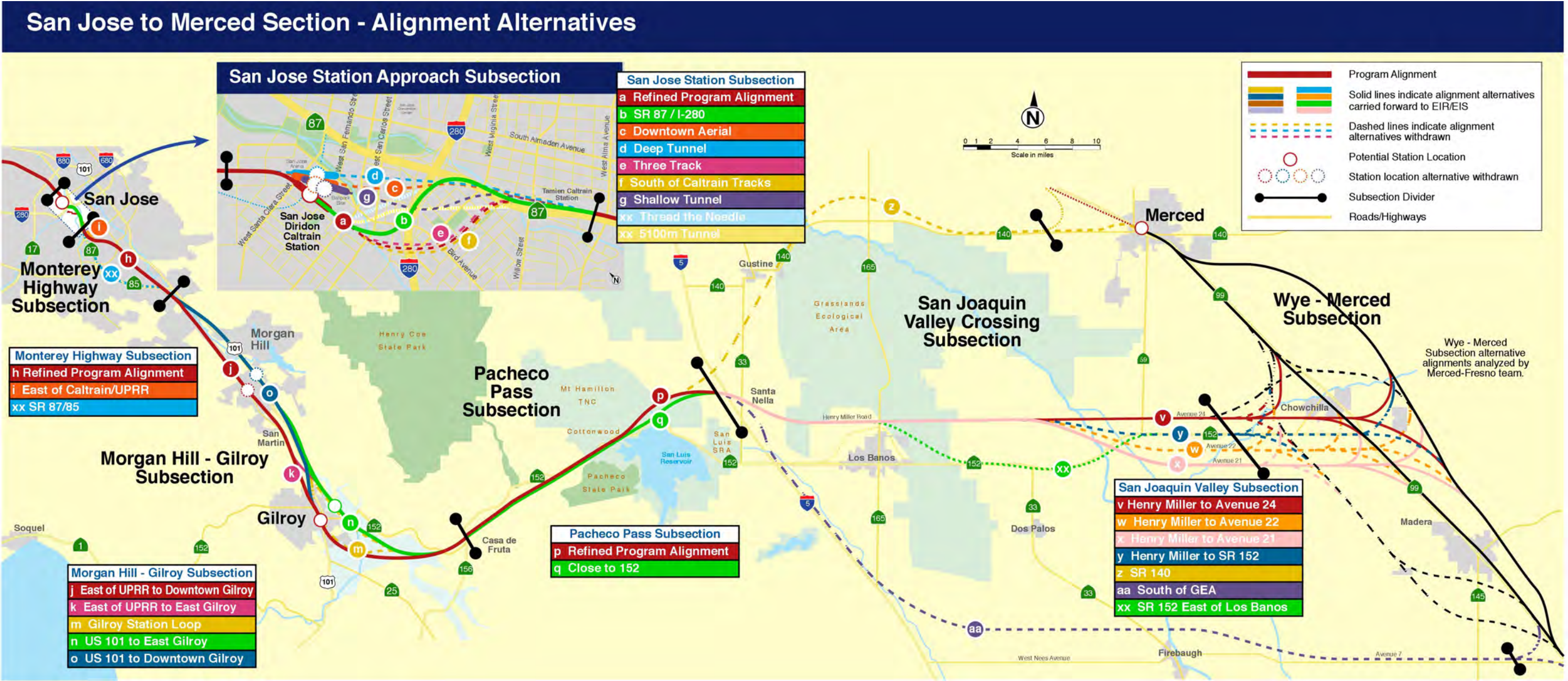
As part of the HST Alternative selected for further analysis, the Authority and the Federal Railroad Administration (FRA) defined a corridor between San Francisco and San Jose along the San Francisco Peninsula and between San Jose and the Central Valley through the Pacheco Pass and via Henry Miller Road. In July 2008, the Authority selected the Pacheco Pass to San Francisco via San Jose as the network alternative for connecting the Bay Area with the Central Valley. The selected Pacheco Pass network alternative included general alignments between San Jose and Gilroy, over the Pacheco Pass, across the San Joaquin Valley, and north to Merced, which would be studied further in project EIRs.

However, due to a recent court ruling, the Authority has reopened the related environmental document and is working to address issues identified by the court as part of a revised and recirculated environmental document. The Authority will consider the revised materials and the entire record before making a new certification decision on the revised program EIR under CEQA. The Authority also will make a new programmatic decision on a network alternative for connecting the Bay Area with the Central Valley that it will study at the project level. The court ruling did not require the Authority to stop the work being done on the project-specific environmental review.

The corridor that has been studied at the project level extends approximately 125 miles, starting at the Diridon train station in San Jose, where it connects with the San Francisco to San Jose HST Section, runs south of Gilroy and then east through the mountainous Pacheco Pass to Chowchilla, where it connects with the Merced to Fresno HST Section. Stations are planned in San Jose, Gilroy and Merced.



Figure ES-1 : Alignment Alternatives Carried Forward for Evaluation in the Draft EIR/EIS



## ES.4 Public and Agency Outreach Efforts

In February 2009, the Authority, in cooperation with the FRA began a project-level environmental review of the San Jose to Merced HST Section per requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). In March 2009, scoping meetings were held to receive input on the scope of issues that should be analyzed in the EIR/EIS. The meetings are summarized in the San Jose to Merced Section High Speed Train Project EIR/EIS Draft Scoping Report (August 2009) (see <http://www.cahighspeedrail.ca.gov/library.asp?p=8281>).

In addition, a number of agency, general public and small group meetings were held throughout the alternatives analysis phase. The purpose of these meetings was to explain the alternatives analysis process, share the results of the preliminary studies with the public and agencies and receive feedback.

Input at these meetings and other comments were distilled to produce initial alignment alternatives and station and design options for consideration in this AA Report. Feedback from the public and agencies included issues such as noise, visual impacts, vibration, community cohesion, biological impacts, project cost and funding, right-of-way, and more.

## ES.5 Next Steps

This *Preliminary Alternatives Analysis Report San Jose to Merced Section* informs the Project Description for the EIR/EIS. It also sets parameters for the next level of design (15 percent) and environmental analysis. This ongoing work will provide the Authority, FRA and the communities in San Jose to Merced corridor more details and a fuller picture of both the design options in each subsection and a comprehensive vision of the entire corridor.

As the engineering and environmental work continues, the Authority will continue to meet and engage communities along the San Jose to Merced corridor in a discussion about the different alternatives. If deemed necessary by the lead agencies, a supplemental Alternative Analysis report will consider feedback received on this Preliminary Alternative Analysis report and will discuss how the alternatives analysis will inform the detailed engineering, environmental and outreach activities in the San Jose to Merced corridor. These activities will inform preparation of the draft EIR/EIS, which is currently scheduled for public comment in July 2011.



Table ES-1 - Alignment Alternatives and Station Location Options Considered										
ALIGNMENT ALTERNATIVE/STATION LOCATION AND DESIGN OPTIONS	AA DECISION		REASONS FOR ELIMINATION						ENVIRONMENTAL/OTHER CONCERNS	
	Carried Forward	Withdrawn	Construction	Incom-patibility	Right-of-Way	Connectivity/Accessibility	Revenue/Ridership	Alignment Eliminated*		Environment
San Jose Station Approach Subsection										
Refined Program Alignment		X		P	S					Community impacts: Residential displacement, Nonprofit (house of worship) displacement; Noise/Vibration; Biological; Cultural; Visual; Parkland resources
South of Caltrain Tracks		X			P				P	Property impacts, Community impacts; Residential displacement; Nonprofit (house of worship) displacement, Noise/Vibration; Biological; Cultural; Visual; Parkland resources
Three Track		X		P						Fully inconsistent with Caltrain Operating Plan
Deep Tunnel		X	P						S	Major constructibility issues (poor soils, high groundwater, potential settlement); Business displacement; Cultural resources; Construction impacts; Substantial costs
Shallow Tunnel		X	P	S	P				S	Relocation (lowering) of proposed BART station under HST Station in poor soils/high groundwater; lowering of BART tunnels; Impacts to Los Gatos Creek; Business displacement; Biological and cultural resources; Construction impacts; Substantial costs
Downtown Aerial		X	P	P					P	Residential/ business displacement; Biological, cultural and visual resources; Community concerns
SR 87/I-280	X									Business displacement; Biological, cultural and parkland resources
Station Location Options										
San Jose HST Station: Over Diridon Platforms	X									Biological and visual resources
San Jose HST Station: Aerial Station East of Existing Diridon Station		X						P		Biological, cultural, visual and parkland resources
San Jose HST Station: Underground Station East of Existing Diridon Station		X						P		Major constructability issues and construction impacts
Monterey Highway Subsection										
Refined Program Alignment	X									Business displacement; biological and cultural resources
East of Tamien Platform		X	P						S	Biological and cultural resources; Disruption to existing railroads; Construction impacts; low speed curve entering Monterey Highway
Morgan Hill-Gilroy Subsection										
East of UPRR to Downtown Gilroy (Program Alignment)	X									Residential/business displacements; Biological, cultural and agricultural resources
US 101 to Downtown Gilroy	X									Residential/business displacements; Biological, cultural, agricultural, parkland and visual resources
Gilroy Station Loop		X							P	Residential/business displacements; Biological, cultural, agricultural, parkland and visual resources; High capital costs; Community concerns
US 101 to East Gilroy	X									Residential displacements; Biological, cultural, parkland and agricultural resources
East of UPRR to East Gilroy	X									Residential/business displacements; Biological, cultural and agricultural resources
Design Option										
Downtown Gilroy: HST Trench	X									Construction impacts; High costs
Station Location Options										
Morgan Hill Downtown (Four-track)		X							P	Visual resources; Agency concerns
Downtown Gilroy (Four-track)	X									Business displacements; cultural and visual resources
Downtown Gilroy (Two-track)		X						P		Cultural and visual resources
East Gilroy (Four-track)	X									Biological, agricultural and visual resources
Morgan Hill US 101 at Cochrane (Four-track)		X						P		Agency concerns
Notes: Reason: Primary (P) and secondary (S) reasons for elimination.										

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	Carried Forward	Withdrawn	Construction	Incom-patibility	Right-of-Way	Connectivity/Accessibility	Revenue/Ridership	Alignment Eliminated*	Environment		
*Alignment Eliminated column only applies to station locations. If an alignment is eliminated, a specific station location may no longer be necessary.											
Pacheco Pass Subsection											
Refined Program Alignment	X									Biological, agricultural and parkland resources	
Close Proximity to SR 152	X									Biological, agricultural and parkland resources	
San Joaquin Valley Crossing Subsection											
Henry Miller Road to Avenue 24 (Revised Program Alignment)	X									Residential displacements; Biological and agricultural resources; Agency concerns	
SR 140		X		S					P	Residential/business displacements; Biological, agricultural and parkland resources; Increased travel time	
South of GEA		X							P	Biological, agricultural and parkland resources; Residential/business displacements; Results in additional time and distance with resulting costs and impacts	
Henry Miller Road to SR 152		X	P							Constructibility issues; Residential/business displacements; Biological and agricultural resources; Agency concerns	
Henry Miller Road to Avenue 21	X									Residential displacements; Biological and agricultural resources	
Henry Miller Road to Avenue 22		X	P						S	Residential displacements; Biological and agricultural resources; Agency concerns	
Notes: Reason: Primary (P) and secondary (S) reasons for elimination.											
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